

## **REMARKS/ARGUMENTS**

Amendments were made to the specification to correct errors and to clarify the specification. No new matter has been added by any of the amendments to the specification.

Claims 1-20 are pending in the present application. Claims 13-16 are cancelled; claims 6 and 17 are amended; and claims 21-24 are added. Reconsideration of the claims is respectfully requested.

### **I. Summary of Examiner Interview**

Applicants thank the examiner for the interview held on July 25, 2006 between the undersigned attorney and the examiner. The objections to the specification, objection to claim 17, the rejection of claim 17 under 35 U.S.C. § 101, and the rejection of claims under 35 U.S.C. § 102(e) were discussed. The examiner agreed that the proposed amendments to the specification would overcome the objection to the specification. Additionally, the examiner withdrew the objection to claim 17. Furthermore, the examiner agreed to amendments to claim 17 that would overcome the rejection under 35 U.S.C. § 101. Otherwise, no agreement was reached for the rejection of claims under 35 U.S.C. § 102(e).

### **II. Objection to Specification**

The examiner has objected to the specification due to minor informalities. In response, the requested corrections have been made to overcome this objection.

### **III. Objection to Claims: Claims 6 and 17**

The examiner has objected to claims 6 and 17 for informalities. Claim 6 has been amended to overcome the objection and should be now in allowable form. During the examiner interview, the examiner withdrew the objection to claim 17. Therefore, the objection to claim 17 is now moot.

### **IV. 35 U.S.C. § 101: Claim 17**

The examiner has rejected claim 17 under 35 U.S.C. § 101 as being directed towards non-statutory subject matter. In response, claim 17 has been amended in accordance with the amendments discussed in the examiner interview. Claim 17 should now be in allowable form and the rejection has been overcome.

### **V. 35 U.S.C. § 102, Anticipation: Claims 1-2, 7, 9-10, 13-14, and 17-18**

The examiner has rejected claims 1-2, 7, 9-10, 13-14, and 17-18 under 35 U.S.C. § 102 as being anticipated by Lee et al., Method for Directly Indicating the Strength of a Signal and the Device Thereof,

U.S. Patent Publication No. 2004/0203549 (October 14, 2004) (hereinafter “Lee”). Claims 13 and 14 are cancelled. Therefore, the rejection as applied to these claims is moot. Otherwise, for the remaining claims, this rejection is respectfully traversed.

The examiner asserts:

Consider **claim 1**, Lee et al. clearly show and disclose a wireless network apparatus (wireless communication device) (Abstract, Figure 1, Figure 3 wireless network card 10, and [0007], [0023]-[0024]) comprising:

a housing (it is inherent that the wireless network card 10 includes a housing in itself, see Figure 1, and [0023]);

a bus interface (first judgement signal 321 and second judgement signal 322) located inside the housing, wherein the bus interface provides a connection to a data processing system (judgement device 32) (Figure 3, [0042], and [0044]);

a transceiver (wireless network card 10) located inside the housing, wherein the transceiver sends and receives data from a wireless connection (Figure 3, [0024], [0043], and [0045]);

a data buffer (buffer 31) located inside the housing and being connected to the bus interface and the transceiver, wherein the data buffer holds data for transfer between the bus interface and the transceiver (Figure 3, and [0042]-[0045]);

a display device (indication members 11) located on an exterior of the housing, wherein the display device is located on the exterior of the wireless network apparatus (wireless network card 10) in a location (indication zone 111) for viewing by a human user (Figure 1, [0016], and [0024]-[0025]); and

a control unit (drive circuit 30) located within the housing, wherein the control unit controls the transfer of data through the data buffer (drive circuit 30 includes a buffer 31 which includes a first input port 311 for inputting the control value, second input port 312 for inputting an enabling signal, and an output port 313 for connecting to the indication members 11), identifies a signal strength for the wireless connection (drive circuit 30 further includes a judgement device 32 which may output a potential signal to function as an enabling signal 323 so as to drive the buffer 31), and displays the signal strength on the display device (drive circuit 30 operated to decide if one, some or all of the indication members 11 are to be lighted) ([0042], and [0044]-[0045]).

**Office Action** dated June 7, 2006, pages 4-5.

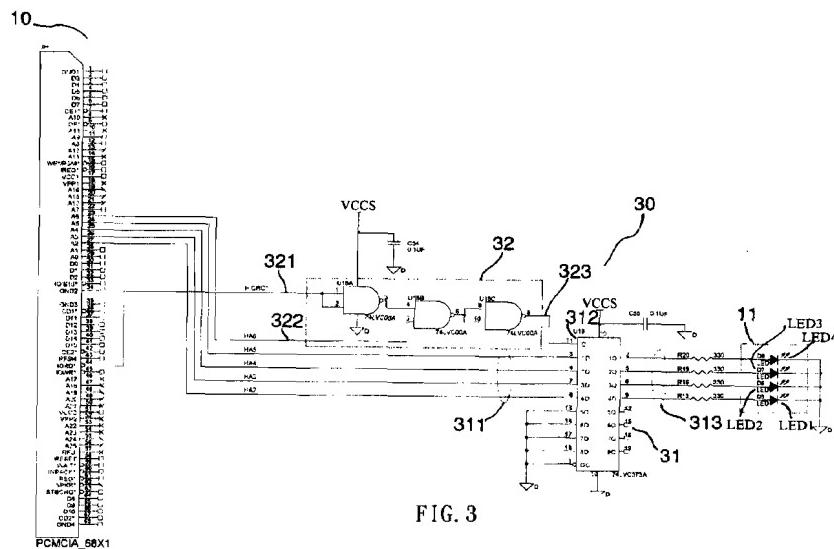
However, **Lee** does not anticipate claim 1 because **Lee** does not disclose all the features as recited in claim 1 of the claimed invention. A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. *In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994). Anticipation focuses on whether a claim reads on the product or process by what a prior art reference discloses, not on what the reference broadly teaches. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 218 U.S.P.Q. 781 (Fed. Cir. 1983).

Claim 1 is representative of claims 9 and 17. Claim 1 is as follows:

1. (Original) A wireless network apparatus comprising:

- a housing;
- a bus interface located inside the housing, wherein the bus interface provides a connection to a data processing system;
- a transceiver located inside the housing, wherein the transceiver sends and receives data from a wireless connection;
- a data buffer located inside the housing and being connected to the bus interface and the transceiver, wherein the data buffer holds data for transfer between the bus interface and the transceiver;
- a display device located on an exterior of the housing, wherein the display device is located on the exterior of the wireless network apparatus in a location for viewing by a human user; and
- a control unit located within the housing, wherein the control unit controls the transfer of data through the data buffer, identifies a signal strength for the wireless connection, and displays the signal strength on the display device.

**Lee** does not disclose all the features of claim 1. Specifically, **Lee** does not disclose the feature of a transceiver located inside the housing, wherein the transceiver sends and receives data from a wireless connection. However, the examiner asserts that the reference does disclose the feature, specifically citing to the wireless network card (reference numeral 10) of Figure 3 and paragraphs 0024, 0043, and 0045. However, the examiner misapprehends the cited figure and sections of text. The cited figure and sections of text are as follows:



**Lee**, Figure 3.

[0024] The PCMCIA wireless network card 10 is provided with multiple properly arranged indication members 11 (such as LED) that may be operated corresponding to the strength of the local RF (radio frequency) signal. For example, when the local RF signal is strong, all of the indication members 11 will indicate or light, and when the local RF signal is weak, only some of the indication members 11 will indicate or light. When the local RF signal is very weak so that the data cannot be transmitted or received, all of the indication members 11 will not indicate or become dark. Thus, the indication of the indication members 11 may be changed according to the strength of the local RF signal,

so that the user may directly learn the strength of the local RF signal easily, rapidly and instantaneously in a direct viewing manner, so as to decide whether to transmit or receive the data or not, or to take other procedures, thereby preventing from incurring unnecessary time consumption, and thereby enhancing the working efficiency.

[0043] The enabling signal may be obtained from an information reading leg "IORD" (see FIG. 3) of the wireless network card 10. The potential of the information reading leg is determined by the signal transmitting and receiving conditions of the wireless network card 10. When the wireless network card 10 is transmitting or receiving the signal, the information reading leg has a high potential, so that the enabling signal has a high voltage. Thus, the buffer 31 may be enabled, so that if the control value is not "0000", at least one of the LED1, LED2, LED3 and LED4 will light.

[0045] In summary, the buffer 31 will be driven only when both of the information reading leg and the undefined leg have a high potential, so as to light one, some or all of the LEDs. Thus, when the wireless network card 10 is transmitting or receiving the signal and the control value is produced, the drive circuit 30 may be operated to decide if the LED is lighted.

**Lee**, paragraphs 0024, 0043, and 0045.

The cited figure and sections of text do not disclose the feature of a transceiver located inside the housing, wherein the transceiver sends and receives data from a wireless connection, because the wireless network card described in **Lee** is not the same as the transceiver as recited in claim 1 of the claimed invention. Figure 3 of **Lee** is a circuit diagram of a drive circuit for the indication members of a wireless communication device. Reference numeral 10 of Figure 3 illustrates a wireless network card. The cited sections of text describe the drive circuit illustrated in Figure 3. The cited sections of text state that the indication members on the wireless network card will light according to the signal strength of the local radio frequency signal. Based on the received signal strength, the information reading leg ("IORD") of the wireless network card generates a potential, which in turn provides a high voltage to an enabling signal. The enabling signal is sent to a buffer, and the buffer releases a control value indicating which indication members should be lighted. However, neither the description of the wireless network card nor any of the other parts described in the cited text discloses a transceiver as recited in the claimed invention.

Claim 1 of the claimed invention recites a transceiver located inside the housing of a wireless network apparatus. However, the referenced wireless network card in **Lee** is not the same as the claimed transceiver, because the wireless network card cannot be located inside the housing itself. The wireless network card in **Lee** is the basis on which **Lee**'s invention resides. The wireless network card cannot also be described as a component within itself. At best, the wireless network card in **Lee** may include a housing, but nowhere in **Lee** is there any mention that the wireless network card is a component within itself. Therefore, the feature as recited in claim 1 of the claimed invention is not found anywhere in the reference. Accordingly, **Lee** does not teach all the features as recited in claim 1 of the claimed invention.

Additionally, none of the other components in the cited sections of text disclose the feature. For example, the IORD in **Lee** is not the same as the transceiver as recited in claim 1 of the claimed invention, because the IORD does not send and receive data from a wireless connection. The IORD in **Lee** transmits an electric potential, which is a unit of charge associated with an electric field. Data is more complex than a unit of charge. An electric potential may be involved and generated as a result of the transmission of data, but an electric potential does not rise to the level of data. Thus, a unit of charge is distinctly different from data from a wireless connection as recited in claim 1 of the claimed invention. Therefore, the act of transmitting an electric potential is not the same as sending or receiving data from a wireless connection as recited in claim 1 of the claimed invention. Therefore, the IORD and none of the other components cited in the sections of text teach the feature of a transceiver located inside the housing, wherein the transceiver sends and receives data from a wireless connection. Accordingly, **Lee** does not teach all the features as recited in claim 1 of the claimed invention.

Moreover, during the examiner interview, the examiner admitted and Applicants agree that **Lee** does not expressly disclose the feature of a transceiver located inside the housing, wherein the transceiver sends and receives data from a wireless connection. However, the examiner asserts that the feature is inherently present in the reference. However, contrary to the examiner's assertion, the feature of a transceiver as recited in claim 1 of the claimed invention is not inherently anticipated because the feature is not necessarily present in **Lee**.

Section 102 of Title 35 deals with novelty and loss of patent rights. An invention is said to be "anticipated" when it is squarely described or disclosed in a single reference as identified from one of the categories of 35 U.S.C. § 102, commonly referred to as "prior art". Express anticipation occurs when the invention is expressly disclosed in the prior art, patent or publication. In some cases, however, when the claimed invention is not described *in haec verba*, the "doctrine of inherency" is relied on to establish anticipation. Under the principles of inherency, a claim is anticipated if a structure in the prior art necessarily functions in accordance with the limitations of a process or method claim. *In re King*, 801 F.2d 1324, 231 U.S.P.Q. 136 (Fed. Cir. 1986). A prior art reference that discloses all of a patent's claim limitations anticipates that claim even though the reference does not expressly disclose the "inventive concept" or desirable property the patentee discovered. *Verdgaal Brothers, Inc. v. Union Oil Company of California*, 814 F.2d 628, 2 U.S.P.Q.2d 1051, (Fed. Cir. 1987). Mere possibilities or even probabilities, however, are not enough to establish inherency. The missing claimed characteristics must be a "natural result" flowing from what is disclosed. *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 20 U.S.P.Q.2d 1746 (Fed. Cir. 1991). Unstated elements in a reference are inherent when they exist as a "matter of scientific fact". *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 7 U.S.P.Q.2d 1057

(Fed. Cir.), *cert. denied*, 488 U.S. 892 (1988) and *Hughes Aircraft Co. v. United States*, 8 U.S.P.Q.2d 1580 (Ct. Cl. 1988). Otherwise, the invention is not inherently anticipated.

In the present case, the examiner's assertion can be made only through the use of the Applicants' disclosure as a template to fill in the missing elements. As shown above, **Lee** does not expressly disclose a transceiver located inside a housing. Additionally, **Lee** does not inherently anticipate a transceiver located inside a housing either. A transceiver is not required to be located within the housing of the wireless network card. The possibility exists that a transceiver may exist external to the housing of the wireless network card. Since **Lee** does not expressly disclose whether the transceiver is inside or outside of the housing, it is impossible to assess or conjecture as to which one **Lee** would disclose. Assuming that **Lee** probably meant to include the transceiver inside the housing is not enough to establish inherency. Therefore, the existence of a transceiver located inside the housing is not considered a natural result flowing from the reference and, therefore, not necessarily present. Thus, **Lee** does not inherently anticipate or teach all the features as recited in claim 1 of the claimed invention. Accordingly, **Lee** does not anticipate claim 1, because **Lee** does not disclose all the features as recited in claim 1 of the claimed invention.

Since claim 1 is representative of claims 9 and 17, the same distinctions between **Lee** and the claimed invention in claim 1 applies to claims 9 and 17 as well. Since claims 2, 7, 10, and 18 depend from claims 1, 9, and 17, respectively, the same distinctions between **Lee** and the claimed invention in claims 1, 9, and 17 apply for these claims as well. Accordingly, the rejection of claims 1-2, 7, 9-10, and 17-18 under 35 U.S.C. § 102 has been overcome.

## **VI. 35 U.S.C. § 103, Obviousness: Claims 3-4, 11, 15, and 19**

The examiner has rejected claims 3-4, 11, 15, and 19 under 35 U.S.C. § 103 as being unpatentable over **Lee** in view of Ishikura, Radio Communication Apparatus Having a Function for Displaying Reception Field Strength and Method of Controlling the Apparatus, U.S. Patent No. 5,239,684 (August 24, 1993) (hereinafter "Ishikura"). Claim 15 is cancelled. Therefore, the rejection as applied to claim 15 is moot. Otherwise, for the remaining claims, this rejection is respectfully traversed.

The examiner asserts:

**Consider claims 3, 11, 15 and 19 as applied to claims 1, 9, 13 and 17 respectively,** Lee et al. disclose a display device (indication members 11).

However, Lee et al. fail to disclose that the display device is a liquid crystal display (LCD).

In the same field of endeavor, Ishikura discloses a display device (display unit 118) constituted by an LCD driver 118a and a liquid crystal display 118b (Figure 4; column 1 lines 23-25, column 1 lines 53-54, lines 61-62; and column 4 lines 47-49).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Ishikura with the

teachings for Lee et al. for the purpose of providing an alternate form of the display device to indicate signal strength.

**Office Action** dated June 7, 2006, pages 8-9.

The examiner fails to establish a *prima facie* case of obviousness because the cited references, alone and in combination, do not show all the features as recited in the claimed invention. The examiner bears the burden of establishing a *prima facie* case of obviousness based on the prior art when rejecting claims under 35 U.S.C. § 103. *In re Fritch*, 972 F.2d 1260, 23 U.S.P.Q.2d 1780 (Fed. Cir. 1992). All limitations of the claimed invention must be considered when determining patentability. *In re Lowry*, 32 F.3d 1579, 1582, 32 U.S.P.Q.2d 1031, 1034 (Fed. Cir. 1994). In comparing **Lee** and **Ishikura** to the claimed invention to determine obviousness, features of the presently claimed invention may not be ignored. Neither **Lee** nor **Ishikura**, alone or in combination, show all the features as recited in the claimed invention.

Claim 3 is representative of claims 11 and 19. Claim 3 is as follows:

3. The wireless network apparatus of claim 1, wherein the display device is a liquid crystal display.

Claim 4 is as follows:

4. The wireless network apparatus of claim 1, wherein the signal strength is displayed as a bar on the display device.

The examiner fails to establish a *prima facie* obviousness rejection because neither **Lee** nor **Ishikura** disclose all the features of claim 1 and, consequently, claims 3 and 4 which depend from claim 1. The examiner asserts that all the features of claim 1 are disclosed in **Lee**. However, as shown above, **Lee** does not disclose the feature of a wireless network apparatus comprising a transceiver located inside the housing, wherein the transceiver sends and receives data from a wireless connection.

**Ishikura** does not cure the lack of disclosure in **Lee**. **Ishikura** describes a system and method for accurately displaying reception field strength on a radio communication apparatus. The method uses a combination of signal strength values, reference values, and threshold values to obtain an accurate reception field signal strength value. The method begins with the generation of a radio signal of a predetermined strength by a transmission device to form a reference value. The radio communication apparatus receives the transmission in a radio unit, and the value of the signal that is received forms a threshold value. The threshold value is then corrected based on the mode of operation of the radio communication apparatus. The corrected threshold value is then translated into a field strength signal, which then determines the number of bars to display on a liquid crystal display (LCD) of a radio communications apparatus. However, the system and method described in **Ishikura** does not teach a wireless network apparatus that comprises a transceiver located inside the housing, wherein the

transceiver sends and receives data from a wireless connection. As in **Lee**, **Ishikura** does not expressly disclose a transceiver located inside the housing of a wireless network apparatus. Thus, **Ishikura** does not teach the missing feature as recited in claim 1 of the claimed invention. Additionally, **Ishikura** only describes a system and method that receive and transmit a signal, which is not the same as the receipt and transmission of data as recited in claim 1 of the claimed invention. A signal is a medium for conveying data from one place to another, but a signal is not data. At best, a signal may include data. Therefore, **Ishikura** does not teach all the features as recited in claim 1 and, therefore, claims 3 and 4 of the claimed invention. As shown above, **Lee** also does not show the claimed feature. Accordingly, the combination of **Lee** and **Ishikura** also does not disclose all the features of claim 1 and, thus, claims 3 and 4.

Additionally, the examiner fails to establish a *prima facie* case of obviousness because the examiner fails to state a proper motivation to combine the cited references. A proper *prima facie* case of obviousness cannot be established by combining the teachings of the prior art absent some teaching, incentive, or suggestion supporting the combination. *In re Napier*, 55 F.3d 610, 613, 34 U.S.P.Q.2d 1782, 1784 (Fed. Cir. 1995); *In re Bond*, 910 F.2d 831, 834, 15 U.S.P.Q.2d 1566, 1568 (Fed. Cir. 1990). Nowhere does **Lee** teach, suggest, or give any incentive of “providing an alternate form of the display device to indicate signal strength” or “indicating the signal strength...in an alternate form using bars” as asserted by the examiner. **Office Action** dated June 7, 2006, page 9. **Lee** only teaches a light emitting diode (LED), and nowhere in **Lee** is there any teaching, suggestion, or incentive to display the signal strength in any form other than an LED. Additionally, **Lee** only teaches an indicator with members arranged in indication zones, and nowhere does **Lee** teach, suggest, or give an incentive for a wireless network apparatus that displays signal strength as a bar. Thus, no suggestion of a combination of components necessary to display signal strength on a liquid crystal display (LCD), a bar, or any alternate form exists in **Lee**. Therefore, one of ordinary skill in the art would not be motivated to look to **Ishikura** for the missing features in **Lee**. Thus, no motivation exists to combine the cited references.

In addition, claims 3 and 4 are non-obvious in view of **Lee** and **Ishikura** when the references are considered as a whole. "It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art." *In re Hedges*, 228 U.S.P.Q. 685, 687 (Fed. Cir. 1986). As shown above, neither **Lee** nor **Ishikura** teaches the feature of a wireless network apparatus comprising a transceiver located inside the housing, wherein the transceiver sends and receives data from a wireless connection. In view of the fact that the combination of the references fails to teach all the features of the claim, and in further view of the fact that no reason exists to further modify the references to achieve the claimed invention, the natural conclusion is that the claim is non-obvious in view of the references when the references are considered

as a whole. Absent some teaching or suggestion in the art, no motivation exists to further modify the references to achieve the claimed inventions, and certainly the examiner also has not provided any motivation to further modify the references. Therefore, the claimed invention is non-obvious in view of **Lee** and **Ishikura** when the references are considered as a whole.

Moreover, in considering the references as a whole, one of ordinary skill in the art would also consider the problems addressed by the references. Claims 3 and 4 are non-obvious in view of **Lee** and **Ishikura** because the references are directed at solving different problems. **Lee** is directed at resolving issues surrounding the ability to instantaneously understand transmission conditions on a wireless network card, as shown below:

[0004] A conventional wireless network card in accordance with the prior art shown in FIG. 4 may be inserted into a notebook computer, and comprises multiple indication lights "A" for indicating the states of the conventional wireless network card, such as the state of power supply, the transmitting state, the receiving state or the like, so that the user may learn the whole operation situation of the conventional wireless network card. However, the indication lights "A" cannot indicate the strength of the local RF (radio frequency) signal, so that when the local RF signal is very weak, the user cannot instantly get the poor conditions of transmitting and receiving the wireless signals until he learns that the data of the conventional wireless network card cannot be transmitted or received, thereby consuming much time, and thereby causing inconvenience to the user.

**Lee**, paragraph 0004, page 1.

On the other hand, **Ishikura** is directed at resolving issues surrounding the accurate representation of reception field strength on a liquid crystal display for a radio communication apparatus, as shown below:

[Lines 39-52] With such a common use-type radio telephone apparatus, however, depending on the situations where the portable radio device is used by being installed on the vehicle-mounted main body and where it is used independently, transmission routes leading from an antenna to various units of the apparatus differ. For this reason, when displaying the reception field strength on the display unit, there has been a problem in that, depending on the situations where the portable radio device is used by being installed on the vehicle-mounted main body and where it is used independently, the display value differs even though the reception field strength is actually the same.

[Lines 53-62] In addition, when displaying the reception field strength on the liquid crystal display or the like, the display is usually effected on a digital basis. In the digital-basis display, threshold values for determining a plurality of stages set in correspondence with the reception field strength are stored in advance, and the stage of the reception field strength is determined on the basis of a comparison with the stored threshold values (reference values), and that stage is displayed on the liquid crystal display.

**Ishikura**, column 1, lines 39-62.

As can be seen, the problems addressed in **Lee** and **Ishikura** are very different. **Lee** is directed at instantaneously informing a user of the signal strength on a wireless network card so that a user may

determine whether a strong enough signal exists to transmit or receive data. **Ishikura** is directed at correcting field strength data so that a liquid crystal display for a radio communication apparatus accurately reflects the radio field strength. Because the references are directed toward different problems, one of ordinary skill would have no reason to look to **Ishikura** for the problem addressed by **Lee**. Hence, no motivation exists to combine or modify the cited references as proposed by the examiner.

Furthermore, one of ordinary skill in the art would not be motivated to combine the cited references because the solutions are very different. **Lee** addresses the problem of instantaneously assessing the signal strength of a wireless network card through the display of multiple indication members, as shown below:

[0007] In accordance with one aspect of the present invention, there is provided a method for directly indicating the strength of a signal for a wireless communication device, the wireless communication device being provided with multiple indication members, the method comprising the steps of:

[0008] (a) querying a signal strength value;

[0009] (b) determining a control value according to the signal strength value; and

[0010] (c) using the control value to control operation of the multiple indication members.

[0011] In accordance with another aspect of the present invention, there is provided a method for directly indicating the strength of a signal for a wireless network card using a PCMCIA interface, the wireless network card being provided with multiple indication members, the method comprising the steps of:

[0012] (a) initializing the wireless network card, and allocating multiple I/O address spaces;

[0013] (b) querying the information records of the medium access control (MAC) layer of the PCMCIA interface, to obtain a signal strength value;

[0014] (c) determining a control value according to the signal strength value; and

[0015] (d) sending the control value to the multiple I/O address spaces, to control operation of the multiple indication members.

[0016] In accordance with a further aspect of the present invention, there is provided a wireless communication device for directly indicating the strength of a signal, comprising multiple properly arranged indication members that may be operated corresponding to a strength of a local RF (radio frequency) signal.

**Lee**, paragraphs 0007-0016, page 1.

On the other hand, **Ishikura** addresses the issue of accurately reflecting radio field strength on an automobile telephone apparatus through the use of corrected data generated from a pre-determined reference value:

A radio communication apparatus such as an automobile telephone apparatus capable of accurately displaying a reception field strength. Also disclosed is a method of setting a threshold value for displaying a reception field strength of the radio communication apparatus. A storage device for storing correction data for the reception field strength corresponding to a mode of usage of the radio communication apparatus is provided. At the time when information on the reception field strength is supplied to a user, the reception field strength is corrected on the basis of correction data stored in the storage device to effect the notification. A radio signal of a predetermined strength corresponding to a reference value is generated from the outside, the radio signal generated is received, the reception field strength of the radio signal received is detected, and the value of the reception field strength detected is stored in a storage device as data on the threshold value.

**Ishikura, Abstract.**

As can be seen, the solutions in **Lee** and **Ishikura** are very different. **Lee** utilizes a display of multiple indication members to indicate signal strength of a wireless network card. **Ishikura** utilizes a method of correcting data generated from a pre-determined reference value to accurately reflect radio field strength on an automobile telephone apparatus. Because the references have very different solutions, one of ordinary skill would have no reason to look to **Ishikura** for the problem addressed by **Lee**. Therefore, no motivation exists to combine or modify the cited references as proposed by the examiner.

Claim 3 is representative of claims 11 and 19. Therefore, all arguments for claim 3 also apply to claims 11 and 19. Therefore, the rejection of claims 3-4, 11, and 19 under 35 U.S.C. § 103 has been overcome.

**VII. 35 U.S.C. § 103, Obviousness: Claims 5-6, 12, 16, and 20**

The examiner has rejected claims 5-6, 12, 16, and 20 under 35 U.S.C. § 103 as being unpatentable over **Lee** in view of **Coverdale et al., User Out-of-Range Indication for Digital Wireless Systems**, U.S. Patent No. 5,809,414 (September 15, 1998) (hereinafter “**Coverdale**”). Claim 16 is cancelled. Therefore, the rejection as applied to claim 16 is moot. Otherwise, for the remaining claims, this rejection is respectfully traversed.

The examiner asserts:

Consider **claim 5, as applied to claim 1 above**, Lee et al. show and disclose a control unit (drive circuit 30) ([0042], and [0044]-[0045]).

However, Lee et al. fail to disclose a sound generator unit, wherein the control unit selectively generates a sound using the sound generator unit based on the signal strength.

In the same field of endeavor, Coverdale et al. disclose a sound generator (noise source 58), wherein the control unit (control module 60) selectively generates a sound using the sound generator unit (noise source 58) based on the signal strength (column 3 lines 30-37, and column 4 lines 22-28).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the sound generator (noise source 58) to generate a sound to indicate signal strength as taught by Coverdale et al. into the teachings of Lee et al. for the purpose of indicating signal strength audibly.

**Office Action** dated June 7, 2006, page 10.

The examiner fails to establish a *prima facie* case of obviousness because the cited references, alone and in combination, do not show all the features as recited in the claimed invention. In comparing **Lee** and **Coverdale** to the claimed invention to determine obviousness, features of the presently claimed invention may not be ignored. Neither **Lee** nor **Coverdale**, alone or in combination, show all the features claimed by the examiner.

Claim 5 is as follows:

5. The wireless network apparatus of claim 1 further comprising:  
a sound generator unit, wherein the control unit selectively generates a sound using the sound generator unit based on the signal strength.

Claim 6 is representative of claims 12, 16, and 20. Claim 6 as amended is as follows:

6. The wireless network apparatus of claim 1, wherein the control unit generates a sound if the signal strength falls below a threshold.

The examiner fails to establish a *prima facie* obviousness rejection because neither **Lee** nor **Coverdale**, alone or in combination, disclose all the features of claim 1 and, consequently, claims 5 and 6 which depend from claim 1. The examiner asserts that all the features of claim 1 are disclosed in **Lee**. However, as shown above, **Lee** does not disclose the feature of a wireless network apparatus comprising a transceiver located inside the housing, wherein the transceiver sends and receives data from a wireless connection.

**Coverdale** does not cure the lack of disclosure in **Lee**. **Coverdale** describes a warning mechanism for notifying users that a mobile unit is moving out of communication range. An antenna for the mobile unit receives a signal. A radio frequency/intermediate frequency circuit transforms the signal into a signal strength indication. The indicator then generates a noise which is inserted into the wireless unit and mimics the sound of an analog mobile unit. The inserted noise level increases as the mobile unit moves further away and possibly out-of-range. However, the system described in **Coverdale** does not teach or suggest a wireless network apparatus that comprises a transceiver located inside the housing, wherein the transceiver sends and receives data from a wireless connection. **Coverdale** only describes an antenna for receiving a signal and the transformation of the signal to a noise. As shown above, a signal is not data and, therefore, does not disclose a transceiver as recited in claim 1 of the claimed invention. Additionally, **Coverdale** does not disclose anything about a transceiver located inside a housing. Therefore, **Coverdale** does not teach all the features as recited in claim 1 and, therefore, claims 5 and 6 of

the claimed invention. As shown above, **Lee** also does not show the claimed feature. Accordingly, the combination of **Lee** and **Coverdale** also does not disclose all the features of claim 1 and, thus, claims 5 and 6.

Additionally, the examiner fails to establish a *prima facie* case of obviousness because the examiner fails to state a proper motivation to combine the cited references. Nowhere does **Lee** teach, suggest, or give any incentive of indicating “a signal strength audibly” or specifically when “the signal strength falls below a threshold” as asserted by the examiner. **Office Action** dated June 7, 2006 pages 10-11. As shown above, **Lee** only teaches a visual indicator in a LED with members arranged in indication zones. Nowhere in **Lee** is there any teaching, suggestion, or incentive to have a signal strength indicated audibly. Therefore, one of ordinary skill in the art would not be motivated to look to **Coverdale** for the missing features in **Lee**. Thus, no motivation exists to combine the cited references.

In addition, claims 5 and 6 are non-obvious in view of **Lee** and **Coverdale** when the references are considered as a whole. As shown above, neither **Lee** nor **Coverdale** teaches the feature of a wireless network apparatus that comprises a transceiver located inside the housing, wherein the transceiver sends and receives data from a wireless connection. In view of the fact that the combination of the references fails to teach all the features of the claims, and in further view of the fact that no reason exists to further modify the references to achieve the claimed invention, the natural conclusion is that the claim is non-obvious in view of the references when the references are considered as a whole. Absent some teaching or suggestion in the art, no motivation exists to further modify the references to achieve the claimed inventions, and certainly the examiner also has not provided any motivation to further modify the references. Therefore, the claimed invention is non-obvious in view of **Lee** and **Coverdale** when the references are considered as a whole.

Moreover, in considering the references as a whole, one of ordinary skill in the art would also consider the problems addressed by the references. Claims 5 and 6 are non-obvious in view of **Lee** and **Coverdale** because the references are directed at solving different problems. As shown above, **Lee** is directed at resolving issues surrounding the ability to instantaneously understand transmission conditions on a wireless network card. On the other hand, **Coverdale** is directed at resolving speech distortions in digital wireless mobile units because of a receiver’s sensitivity to “on” and “off” receiver bits, as shown below:

[Lines 10-16] In analog wireless systems, as a mobile unit moves away from another wireless unit, the audio quality of the voice signal between the two units degrades gradually due to the reduction in the signal level as the mobile unit moves out of range. This produces increased noise, which acts as an audible indicator to the users that the mobile unit is gradually moving out of range.

[Lines 17-28] In contrast, in digital wireless systems, due to the nature of digital

transmissions, audio quality is maintained at a constant level despite variations in received signal level as the mobile node moves, provided the signal level is sufficient to enable the receiver to differentiate between "on" and "off" bits. However as the mobile unit moves to the limit of the receiver's sensitivity, the ability of the receiver to differentiate between "on" and "off" bits, and hence the audio quality, deteriorates rapidly. This can result in the receiver producing severely distorted speech, or even loud noise bursts in the user's ear, without any warning to the user.

[Lines 29-36] U.S. Pat. No. 5,408,693 suggests automatically attenuating the output audio signals whenever a received signal strength indicator (RSSI) determines that the received signal strength is below a predetermined threshold. While this reduces the problem of a loud unexpected noise burst in the user's ear, there still exists a need for a system which will indicate to a user that communication may be lost suddenly in the middle of a conversation.

**Coverdale**, column 1, lines 10-36.

As can be seen, the problems addressed in **Lee** and **Coverdale** are very different. **Lee** is directed at instantaneously informing a user of the signal strength on a wireless network card so that a user may determine whether a strong enough signal exists to transmit or receive data. **Coverdale** is directed at resolving audio quality issues on a digital wireless mobile unit resulting from a receiver's ability to differentiate between "on" and "off" bits. Because the references are directed toward different problems, one of ordinary skill would have no reason to look to **Coverdale** for the problem addressed by **Lee**. Hence, no motivation exists to combine or modify the cited references as proposed by the examiner.

Furthermore, one of ordinary skill in the art would not be motivated to combine the cited references because the solutions are very different. As shown above, **Lee** addresses the problem of instantaneously assessing the signal strength of a wireless network card through the display of multiple indication members. On the other hand, **Coverdale** addresses the issue of degrading audio quality preferably through an audio indicator in the form of noise, as shown below:

[Lines 1-11] The indicator means can provide the user with a visual indication, an audible indication, or both. The audible indication can include tone, beeps, etc. For voice systems, in a preferred embodiment, the system inserts an audible indication, in the form of noise, as the received signal strength varies. The noise is inserted in such a manner that a digital mobile unit, which incorporates the preferred embodiment of the invention, mimics the behavior of an analog mobile unit which is moving out of range, in order to provide a readily identifiable indication to the user that the wireless handset is about to go out of range.

**Coverdale**, column 2, lines 1-11.

As can be seen, the solutions in **Lee** and **Coverdale** are very different. **Lee** utilizes a display of multiple indication members to indicate signal strength of a wireless network card. **Coverdale** utilizes a method of inserting noise into a digital mobile unit to indicate deteriorating audio quality within a digital

wireless mobile unit. Because the references have very different solutions, one of ordinary skill would have no reason to look to **Coverdale** for the problem addressed by **Lee**. Therefore, no motivation exists to combine or modify the cited references as proposed by the examiner.

Claim 6 is representative of claims 12 and 20. Therefore, all arguments for claim 6 also apply to claims 12 and 20. Therefore, the rejection of claims 5-6, 12, and 20 under 35 U.S.C. § 103 has been overcome.

### **VIII. 35 U.S.C. § 103, Obviousness: Claim 8**

The examiner has rejected claim 8 under 35 U.S.C. § 103 as being unpatentable over **Lee** in view of **Kannis**, Data Transmission Apparatus, International Publication No. WO 01/48612 A1 (hereinafter “**Kannis**”). This rejection is respectfully traversed.

The examiner asserts:

Consider **claim 8, as applied to claim 1 above**, Lee et al. disclose that a data processing system (notebook computer) is used to power the wireless network apparatus (wireless network card 10) when the wireless network apparatus is connected to the data processing system ([0004]).

However, Lee et al. fail to disclose that power can be supplied to the wireless network apparatus (wireless network card 10) with the use of a battery located within the housing that can be used when power is unavailable from a data processing system.

In the same field of endeavor, Kannis discloses that a communications apparatus comprises a portable power source, such as one or more batteries (page 3 lines 30-33, and page 6 lines 4-7).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate one or more batteries within the wireless network apparatus as taught by Kannis into the teachings of Lee et al. for the purpose of including a portable power supply to supply independent power.

**Office Action** dated June 7, 2006, pages 13-14.

The examiner fails to establish a *prima facie* case of obviousness because the cited references, alone and in combination, do not show all the features as recited in the claimed invention. In comparing **Lee** and **Kannis** to the claimed invention to determine obviousness, features of the presently claimed invention may not be ignored. Neither **Lee** nor **Kannis**, alone or in combination, show all the features claimed by the examiner.

Claim 8 is as follows:

8. The wireless network apparatus of claim 1 further comprising:  
a battery located within the housing, wherein the battery is used to power the wireless network apparatus when power is unavailable from a data processing system.

The examiner fails to establish a *prima facie* obviousness rejection because neither **Lee** nor **Kannis**, alone or in combination, discloses all the features of claim 1 and, consequently, claim 8 which

depends from claim 1. The examiner asserts that all the features of claim 1 are disclosed in **Lee**. However, as shown above, **Lee** does not disclose the feature of a wireless network apparatus comprising a transceiver located inside the housing, wherein the transceiver sends and receives data from a wireless connection.

**Kannis** does not cure the lack of disclosure in **Lee**. **Kannis** describes a communications apparatus that allows for communication between a computer and a mobile telecommunications unit. The apparatus has two data ports. One data port connects to a serial port of a computer, and another data port allows for the connection of a Personal Computer Memory Card International Association (PCMCIA) card. The communications apparatus also includes a radio frequency transmitter and receiver that transmits and receives digital data signals. However, the radio frequency transmitter and receiver within the communications apparatus is not the same as the transceiver as recited in claim 1 of the claimed invention. **Kannis** does not teach or suggest a transceiver that is located within a wireless network apparatus but only within a communications apparatus. Additionally, the communications apparatus in **Kannis** is not the same as the wireless network apparatus as recited in claim 1 of the claimed invention. The communication apparatus provides an interface that allows for a wireless network apparatus to connect to a computer. However, the communications apparatus is not a wireless network apparatus as recited in claim 1 of the claimed invention. Therefore, **Kannis** does not teach all the features as recited in claim 1 and, therefore, claim 8 of the claimed invention. As shown above, **Lee** also does not show the claimed feature. Accordingly, the combination of **Lee** and **Kannis** also does not disclose all the features of claim 1 and, thus, claim 8.

Furthermore, the examiner fails to establish a *prima facie* case of obviousness because the examiner fails to state a proper motivation to combine the cited references. Nowhere does **Lee** teach, suggest, or give any incentive of “including a portable power supply to supply independent power” as asserted by the examiner. **Office Action** dated June 7, 2006, page 14. **Lee** only teaches a wireless network card with a light emitting diode (LED). No suggestion of a combination of components necessary to independently power the wireless network card exists in **Lee**. Additionally, **Kannis** does not teach, suggest, or give any incentive to include a portable power supply within a wireless network card. **Kannis** teaches the use of a data adapter, such as a PCMCIA card, within a communications apparatus. **Kannis** describes the use of a portable power source for use within the communications apparatus. However, nowhere does **Kannis** teach, suggest, or give any incentive to independently power a wireless network card. Therefore, one of ordinary skill in the art would not be motivated to look to **Kannis** for the missing features in **Lee**. Thus, no motivation exists to combine the cited references.

In addition, claim 8 is non-obvious in view of **Lee** and **Kannis** when the references are considered as a whole. As shown above, neither **Lee** nor **Kannis** teaches the feature of a wireless network apparatus

comprising a transceiver located inside the housing, wherein the transceiver sends and receives data from a wireless connection. In view of the fact that the combination of the references fails to teach all the features of the claim, and in further view of the fact that no reason exists to further modify the references to achieve the claimed invention, the natural conclusion is that the claim is non-obvious in view of the references when the references are considered as a whole. Absent some teaching or suggestion in the art, no motivation exists to further modify the references to achieve the claimed inventions, and certainly the examiner also has not provided any motivation to further modify the references. Therefore, the claimed inventions are non-obvious in view of **Lee** and **Kannis** when the references are considered as a whole.

Moreover, claim 8 is non-obvious in view of **Lee** and **Kannis** because the references are directed at solving different problems. As shown above, **Lee** is directed at resolving issues surrounding the ability to instantaneously understand transmission conditions on a wireless network card. On the other hand, **Kannis** is directed at addressing communications between a computer system and a mobile telephone, as shown below:

With the rise in popularity of personal computers, there has been a growing need to transmit data between computers. When computers are located far from each other geographically, a telecommunications network is required for data transmission. Landline telecommunications networks have been convenient in the past for personal computers. However, as portable or "laptop" computers become popular, mobile telecommunications networks are increasingly being used to provide wireless data transmission. Conventional "mobile" or "cellular" telephones have been used for this purpose. In order to interface a laptop computer with a mobile telephone configured for analog operation, a data adaption device such as a modem is required to adapt data being sent or received. The modem outputs tones which are fed into the mobile telephone via a cable, and is typically in the form of a thin card placed in a slot in the computer. The configuration of the modem and computer is in accordance with the Personal Computer Memory Card International Association (PCMCIA) standard.

**Kannis**, page 1, lines 9-28.

As can be seen, the problems addressed in **Lee** and **Kannis** are very different. **Lee** is directed at instantaneously informing a user of the signal strength on a wireless network card so that a user may determine whether a strong enough signal exists to transmit or receive data. **Kannis** is directed at addressing wireless communication interfaces between a computer system and a mobile telephone. Because the references are directed toward different problems, one of ordinary skill would have no reason to look to **Kannis** for the problem addressed by **Lee**. Hence, no motivation exists to combine or modify the cited references as proposed by the examiner.

Furthermore, one of ordinary skill in the art would not be motivated to combine the cited references because the solutions are very different. As shown above, **Lee** addresses the problem of instantaneously assessing the signal strength of a wireless network card through the display of multiple

indication members. On the other hand, **Kannis** addresses the communications interface issue with a wireless communications apparatus, as shown below:

A first aspect of the present invention provides a wireless communications apparatus for wireless communications between a computing device and at least one mobile telecommunications network, the apparatus including a housing with at least one data port mounted in the housing for communicating with the computing device, wherein the at least one data port is suitable for connecting to the computing device without the interconnection of a cable, and the at least one data port includes a first data port which is directly connectable to a serial port of the computing device. The computing device may be any type of computing device and may be a desktop PC or laptop.

This approach is quite different to the current practice of using a cable to connect a conventional mobile telephone to a computing device. For example, the data port may comprise a plug or socket which connects directly to a respective socket or plug in a computer.

**Kannis**, page 2, lines 11-23.

As can be seen, the solutions in **Lee** and **Kannis** are very different. **Lee** utilizes a display of multiple indication members to indicate signal strength of a wireless network card. **Kannis** utilizes a wireless communications apparatus to interface between a computer system and a mobile phone. Because the references have very different solutions, one of ordinary skill would have no reason to look to **Kannis** for the problem addressed by **Lee**. Therefore, no motivation exists to combine or modify the cited references as proposed by the examiner. Accordingly, the rejection of claim 8 under 35 U.S.C. § 103 has been overcome.

## **IX. New Claims: Claims 21-25**

Claims 21 through 24 are new. Support for the new claims is found in the specification on line 13, page 10 through line 26, page 14. No new matter has been added.

Claim 21 is similar to claim 1. Therefore, all arguments presented above for claim 1 also apply to claim 21. Moreover, the features of claim 21 are not inherently anticipated in **Lee** as asserted by the examiner during the examiner interview. Specifically, during the examiner interview, the examiner asserted that **Lee** inherently discloses the feature of a control unit located within the housing, wherein the control unit calculates the signal strength for the wireless connection using a computer program product in a recordable type medium. However, the examiner misapprehends the reference. Claim 21 is as follows:

21. A wireless network apparatus comprising:  
a housing;  
a bus interface located inside the housing, wherein the bus interface provides a connection to a data processing system;

a transceiver located inside the housing, wherein the transceiver sends and receives data from a wireless connection;

a data buffer located inside the housing and being connected to the bus interface and the transceiver, wherein the data buffer holds data for transfer between the bus interface and the transceiver;

a display device located on an exterior of the housing, wherein the display device is located on the exterior of the wireless network apparatus in a location for viewing by a human user; and

a control unit located within the housing, wherein the control unit controls the transfer of data through the data buffer, identifies a signal strength for the wireless connection, calculates the signal strength for the wireless connection using a computer program product in a recordable type medium, and displays the signal strength on the display device.

**Lee** does not expressly or inherently disclose all the features of claim 21. As shown above, **Lee** does not expressly or inherently disclose all the features of claim 1. Therefore, since claim 21 is similar to claim 1, **Lee** does not expressly or inherently disclose all the similar features of claim 21.

Additionally, **Lee** does not expressly or inherently anticipate the remaining feature of a control unit located within the housing, wherein the control unit calculates the signal strength for the wireless connection using a computer program product in a recordable type medium. During the examiner interview, the examiner admitted and Applicants agreed that **Lee** does not expressly disclose a computer program product in a recordable type medium. However, during the interview, the examiner further asserted that **Lee** inherently anticipates the remaining feature because the drive circuit illustrated in **Figure 3 of Lee** would inherently require software to operate the drive circuit. However, the need to operate a drive circuit using software does not lead to the inherent anticipation for using software to mimic a particular function.

Under the principles of inherency, a claim is anticipated if a structure in the prior art necessarily functions in accordance with the limitations of a process or method claim. *In re King*, 801 F.2d 1324, 231 U.S.P.Q. 136 (Fed. Cir. 1986). A prior art reference that discloses all of a patent's claim limitations anticipates that claim even though the reference does not expressly disclose the "inventive concept" or desirable property the patentee discovered. *Verdgaal Brothers, Inc. v. Union Oil Company of California*, 814 F.2d 628, 2 U.S.P.Q.2d 1051, (Fed. Cir. 1987). Mere possibilities or even probabilities, however, are not enough to establish inherency. The missing claimed characteristics must be a "natural result" flowing from what is disclosed. *Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 20 U.S.P.Q.2d 1746 (Fed. Cir. 1991). Unstated elements in a reference are inherent when they exist as a "matter of scientific fact". *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 7 U.S.P.Q.2d 1057 (Fed. Cir.), cert. denied, 488 U.S. 892 (1988) and *Hughes Aircraft Co. v. United States*, 8 U.S.P.Q.2d 1580 (Ct. Cl. 1988). Otherwise, the invention is not inherently anticipated.

The feature as recited in claim 21 is not inherently anticipated in **Lee**. Claim 21 recites a control unit that calculates the signal strength for the wireless connection using a computer program product in a recordable type medium. Claim 21 recites that the computer program product is used to perform the function of calculating the signal strength. **Lee** utilizes a drive circuit and system of potentials and signals to determine the signal strength. Nowhere in **Lee** is there any mention of using any computer program product or software to calculate signal strength. Furthermore, the use of a computer program product or software to calculate signal strength is not necessarily present in **Lee**. See *In re King*, 801 F.2d at 1324, 231 U.S.P.Q. at 136. As shown in **Lee**, the drive circuit is a complete solution capable of implementing the invention described in **Lee**. **Lee** does not imply or even describe any gaps in the solution that would indicate that software is required to complete the invention described in **Lee**. Therefore, the use of software to implement the solution in **Lee** can only be a mere possibility or probability. The use of software is not a “natural result” flowing from what is disclosed. See *Continental Can Co.*, 948 F.2d at 1264, 20 U.S.P.Q.2d at 1746. Thus, **Lee** does not inherently anticipate the feature as recited in claim 21 of the claimed invention.

Furthermore, contrary to the examiner’s assertion, the software required to operate a circuit is different from software that mimics a circuit. Software that operates a circuit provides the capability for a circuit to function. In other words, the software is the engine that drives the circuit. On the other hand, software that mimics a circuit actually performs the same function as the circuit and, essentially, acts like the circuit. **Lee** does not disclose software that performs the same function as the drive circuit. Therefore, **Lee** does not inherently anticipate the feature of a control unit located within the housing, wherein the control unit calculates the signal strength for the wireless connection using a computer program product in a recordable type medium as recited in claim 21 of the claimed invention. Accordingly, **Lee** does not anticipate claim 21.

As indicated above, all arguments presented above for claim 1 also apply to claim 21. Since claims 22-24 depend from claim 21, the same distinctions for claim 21 also apply to these claims as well. Accordingly, any rejections applied to claims 21-24 from the present Office Action have been overcome.

**X.      Conclusion**

It is respectfully urged that the subject application is patentable over the cited references and is now in condition for allowance. The examiner is invited to call the undersigned at the below-listed telephone number if in the opinion of the examiner such a telephone conference would expedite or aid the prosecution and examination of this application.

DATE: September 5, 2006

Respectfully submitted,

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